PTC. 380 (N)
400.

GOVERNMENT OF INDIA
TARIFF COMMISSION

REPORT

ON

The Continuance of Protection to the Sheet Glass Industry

BOMBAY 1960

©

India, Tariff (—— Commission.)
Continuance of Protection to the
Sheet Glass Industry—1960.

PERSONNEL OF THE COMMISSION

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1—9 T. C. Bom./60

GOVERNMENT OF INDIA

MINISTRY OF COMMERCE AND INDUSTRY

New Delhi, the 23rd November, 1960.

RESOLUTION

(Tariffs)

No. 14(1)-T.R./60.—The Tariff Commission has submitted its Report on the continuance of protection to the Sheet Glass Industry on the basis of an inquiry undertaken by it under sections 11(e) and 13 of the Tariff Commission Act, 1951. Its recommendations are as follows :—

(1) Protection granted to the sheet glass industry should be continued at the existing level of duty of 70 per cent *ad valorem* for a further period of two years *i.e.* up to 31st December, 1962.

(2) Government should make available heavy soda ash to meet the full requirements of the sheet glass industry in the country.

(3) Government should, after making technical assessment of the requirements of each sheet glass unit, grant necessary facilities for the import of equipment for gas producers as early as possible so that re-adjustment of plant capacity to utilise lower grades of coal could be effected smoothly by the industry.

(4) The Railway Administration should examine the request of the industry for upgrading the transport classifications of raw materials and take such appropriate steps as may be deemed feasible.

2. Government accept recommendation (1) and the necessary legislation will be undertaken in due course.

3. Government have taken note of recommendations (2) and (3) and steps will be taken to implement them as far as possible.

4. Government have also taken note of recommendation (4) for examination and such action as may be feasible.

ORDER

ORDERED that a copy of the Resolution be communicated to all concerned and that it be published in the *Gazette of India.*

D. SANDILYA,

Joint Secretary to the Government of India.

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REPORT ON THE CONTINUANCE OF PROTECTION TO THE SHEET GLASS INDUSTRY

Previous tariff inquiries

1. The claim of the glass industry to protection was first investigated by the Tariff Board in 1931. The Board recommended the grant of protection to certain types of glass and glassware for a period of ten years but the Government of India did not accept the recommendation on the ground that there was no indigenous source of supply of soda ash which is one of the principal raw materials. The Tariff Board after a fresh investigation in 1949 recommended protection to the sheet glass industry for a period of two years by converting the then existing revenue duty of 45 per cent *ad valorem* on sheet glass of all gauges into a protective duty at the same rate. Government accepted the recommendation and granted protection upto 31st March 1952. The period of protection was extended from year to year upto 31st December 1954. In 1954 as a result of the Commission's recommendation protection was continued for a further period of three years and the rate of protective duty was raised from 45 per cent to 70 per cent *ad valorem.* The Commission carried out a fresh inquiry in 1957 and recommended continuance of protection for a further period of 3 years at the existing rate of protective duty of 70 per cent *ad valorem.* Government accepted the recommendation and the period of protection was accordingly extended upto 31st December 1960 by the Indian Tariff (Second Amendment) Act, 1957. The present inquiry has been undertaken by way of a review under section 11 (e) read with section 13 of the Tariff Commission Act, 1951.

Method of inquiry

2.1. Questionnaires were issued to producers, importers, dealers and consumers of sheet glass in March 1960. A press note was issued on 2nd March 1960 inviting firms, associations and others interested in the inquiry to obtain copies of relevant questionnaires and submit their replies. The All-India Glass Manufacturers' Federation, New Delhi, and the All India Glass Merchants' Association, Bombay, were requested to furnish memoranda embodying their views on various aspects of the inquiry. The Development Wing was requested to furnish a detailed memorandum on the progress made by the industry since the last inquiry, its present position and plans for expansion. The Directors of Industries, West Bengal, Bihar and Uttar Pradesh, were addressed for information on the present position of the industry in their respective States. The Central Glass and Ceramic Research Institute was addressed for information regarding the quality of indigenous sheet glass and other points connected with the inquiry. Letters were issued to the Collectors of Customs at main ports to furnish information regarding c.i.f. prices and landed costs of the latest consignments of sheet glass. Information regarding f.o.b. prices of sheet glass in Germany, Belgium and China was sought from the Government of India Trade Representatives in those countries. A letter was issued to the Coal Controller regarding supplies of coal to the sheet glass industry. A list of those to whom questionnaires and letters were issued and from whom replies or memoranda were received is given in Appendix I.

2.2. Dr. S. K. Muranjan, Shri J. N. Dutta and Shri R. S. Bhatt, Members, visited the factories of Hindusthan-Pilkington Glass Works Ltd., and Indo-Asahi Glass Co., Ltd., on 9th and 15th June 1960 respectively. They also met officials of the Central Glass and Ceramic Research Institute, Calcutta on 10th June 1960 and discussed with them certain problems of the industry. Shri J. N. Dutta, Member, discussed with the Coal Controller the question of allocation of coal to the sheet glass industry on 17th June 1960. Shri K. R. P. Aiyangar, Chairman, visited the factory of Hindusthan-Pilkington Glass Works Ltd., on 28th July, 1960. Shri S. R. Mallya, Assistant Cost Accounts Officer accompanied by Shri M.S. Maraballi, Research Officer (Chemicals) visited the factories of Hindusthan-Pilkington Glass Works Ltd., and Indo-Asahi Glass Co., Ltd., from 16th to 25th April 1960 and examined the cost of production of sheet glass manufactured by them.

2.3. A public inquiry into the industry was held in Bombay on 29th June 1960. A list of those who attended the inquiry and gave evidence is given in Appendix II.

Scope of the inquiry

3. The scope of the present inquiry covers sheet glass of all gauges. Domestic production of sheet glass is confined mostly to sheet glass of thickness ranging from 2 m.m. to 6·3 m.m.

Implementation of the Commission's ancillary recommendations in its last report (1957)

4.1. We set out below briefly the recommendations made in our last report on matters other than tariffs and the extent to which they have been implemented.

सत्यमेव जयते

4.2. *Recommendation No.* 1.

> "Government should reassess the needs of the sheet glass industry for 'A' Grade coal with a view to meeting the full requirements of the industry".

In July 1958 we were informed by the Ministry of Commerce and Industry that factories manufacturing sheet glass were supplied selected 'A' grade coal where it was freely available and there was no difficulty regarding transport; but in cases where selected 'A' grade coal was either not available or its transport was difficult, the use of selected 'B' grade coal was encouraged. Subsequently the Chief Combustion Engineer attached to the Coal Controller's Organisation was deputed to conduct investigations into the conditions of working of sheet glass factories and to make recommendations on their requirements of various grades of coal. He carried out the necessary investigations into the working of three sheet glass factories, namely Indo-Asahi Glass Co. Ltd., Seraikella Glass Works Ltd. and U. P. Glass Works Ltd. and recommended early in 1959 that 50 per cent of selected 'B' grade coal with 50 per cent grade I coal of certain specifications should be supplied to Indo-Asahi Glass Co., Seraikella Glass Works and Hindusthan-Pilkington Glass Works while, having regard to the different types of furnace of U. P. Glass Works, it should be supplied with 100 per cent selected 'B' grade coal. When the Coal Controller's Organisation initiated action to implement the recommendations, the producers of sheet glass made strong representations to him that the use of coal of any grade lower than selected 'A' was unsuitable because it did not satisfy the requirements of the manufacture of sheet glass of good quality and consequently they should continue to get selected 'A' grade coal only. At the public inquiry, the Chief Combustion Engineer explained that the present position was that while the demand for selected 'A' grade coal had rapidly increased during the past two years, the total raisings of such coal remained more or less stationary. In the circumstance, it was extremely difficult to meet the demands of various consumers for selected 'A' grade coal in full. The Coal Controller therefore appointed a committee, *viz.*, the Fuel Efficiency Committee to examine this question and find out ways and means of making allotments of different grades of coal to various consuming industries. This Committee had, during its investigation, kept in view the minimum requirements of every industry and especially took into account the needs of the glass industry as a whole. In the glass industry, different types of furnaces are used. In units where hand furnaces are in use, selected 'A' grade coal is necessary in order to obtain the requisite temperature. In some cases where furnaces are bigger, a mixture of selected 'A' and selected 'B' grades of coal can be used. As regards the sheet glass industry an important consideration that weighed with the Committee was that in the manufacture of sheet glass coal is not fired into the furnace for melting the glass; in fact, coal is gasified and used for this purpose. Any grade of coal that would produce gas upto the desired temperature could be used. The Chief Combustion Engineer stated that in the case of Indo-Asahi Glass Co. a mixture of 50 per cent selected 'B' grade and 50 per cent grade I coal had given satisfactory results. As a result of investigations the Fuel Efficiency Committee has suggested that 50 per cent selected 'B' grade coal and 50 per cent grade I coal would generally meet the requirements of the sheet glass industry. But as the position of U. P. Glass Works was somewhat different, the Committee suggested the supply of 100 per cent of selected 'B' grade coal. He added that about eight months ago one of the producers had raised an objection that any grade of coal lower than selected 'A' would not serve its purpose. It was therefore suggested that the Coal Controller's Organisation was prepared to give a trial with 50 per cent selected 'B' grade and 50 per cent grade I coal but the unit had not replied and the matter is still pending. This subject is further dealt with in paragraph 9.6.

4.3. *Recommendation No.* 2.

> "The Railway Administration should examine the feasibility of allowing owner's risk rate for the transport of thicker varieties of sheet glass and placing it in the same category for transport purposes as is applicable to thinner varieties"

The Railway Board has informed us that it is now unable to implement this recommendation. As a result of the acceptance of the Railway Freight Structure Enquiry Committee's recommendations Railways generally quote rates at Railway risk and with the exception of a few commodities of a perishable nature or moving in loose condition the classified rate in the revised rate structure is applicable at Railway risk only. The owner's risk class rate for thinner varieties of sheet glass which appeared in the previous rate structure was abolished and in the new structure which came into effect from 1-10-1958, both the thicker and thinner varieties of sheet glass have been assigned class rates applicable to Railway risk only. We are informed by the producers that the Railway Administration has classified consignments of glass sheets under two heads namely "3/16″ and above".and "below 3/16″". In the case of "3/16″ and above", freight rates are higher.

4.4. *Recommendation No.* 3:

> "The Railway Administration should examine the possibility of allocating more wagons to the sheet glass factories so that the stocks at the factories do not accumulate."
>
> "The Railway administration should endeavour to make available the wagons required by the industry for the transport of sand".

4.4.1. The Railway Board informed us that adequate commodity quotas have been fixed under Preferential Traffic Schedule for movement of raw materials to, and finished products from, the glass factories. These quotas are subject to revision from time to time according to the needs of the trade. We understand that sheet glass has been upgraded to transport classification 'E' from 'F' which was the case at the time of the last inquiry.

4.4.2. The manufacturers have complained that in spite of sheet glass having been upgraded there is still inadequate supply of wagons for movement of finished products. Seraikella Glass Works has stated that as against its requirements of six wagons per day it has been getting only four wagons. Hindustan-Pilkington Glass Works, while admitting some improvement in the transport position since the last inquiry, has stated that it experiences considerable difficulty in procurement of wagons. The U.P. Glass Works has complained that at times there is a complete restriction on booking to various stations for a long time. Indo-Asahi Glass Co. has represented that occasional movement restrictions and/or non-availability of wagons interfere with its programme of supplies to markets, especially Madras, Bombay and Delhi.

4.4.3. As regards transport of sand to factories, with the exception of Hindusthan-Pilkington Glass Works, the other three manufacturers have complained about non-availability of sufficient number of wagons at loading stations, *i.e.*, Sankargarh, Bargarh and Lohgarh. Seraikella Glass Works and U.P. Glass Works have, at times, to bring sand to another station, Naini, where wagons are stated to be more easily available. This, however, results in higher transport charges. Indo-Asahi Glass Co. has pointed out that while wagons are easily available during the monsoon period when sand is wet, they are not available during the pre-monsoon period when the Company needs them in order to build up stocks of sand to avoid moisture.

4.5. *Recommendation No.* 4

> "The Railway Administration should endeavour to find wagons required for transport of coal when certain quota of coal is allotted to the industry".

4.5.1. The Railway Board has stated that day-to-day allotment of wagons for movement of coal to individual consumers including sheet glass manufacturers from within the overall supplies of wagons made by the Railway Administration is arranged by the Coal Controller. We were informed by the Ministry of Steel, Mines and Fuel that adequate number of wagons for movement of coal were allotted on a monthly basis to all glass manufacturers except Hindusthan-Pilkington Glass Works which moves its coal by road. The monthly sanction of wagons made under 'normal' and 'special' allotment to those factories was stated to be as follows :—

	Normal allotment	Special allotment	Total
1. U.P. Glass Works Ltd.	35	10	45
2. Seraikella Glass Works Ltd. . . .	3	88	91
3. Indo-Asahi Glass Co. Ltd . . .	33	72	105

These manufacturers have drawn our attention to the difficulties experienced by them for transport of coal. Seraikella Glass Works has stated that due to non-availability of wagons it experienced acute shortage of coal in early 1958 and again in August 1959 when its coal stock was exhausted and consequently it had to close down its furnace for about 1½ months. U.P. Glass Works has complained that supply of coal has been rather irregular and inadequate. Indo-Asahi Glass Co. has informed us that although collieries are situated within 2/3 miles from its factory, wagons are not being made available to it because Railways do not agree to supply wagons for such short distances. This is understandable and the Company may remedy the situation by arranging transport by road as another unit has done.

4.6. *Recommendation No.* 5.

> "The Railway Administration should examine the request of the industry for concessional freight rates for carriage of raw materials."

The Railway Board had suggested that manufacturers and other interests might be advised to approach the Railway Administration concerned for the introduction of suitable station to station rates for movement of raw materials after furnishing them with full details in support of their request. The manufacturers were advised accordingly. Seraikella Glass Works and U.P. Glass Works have reported that their applications have been rejected by the Railway authorities. Hindusthan-Pilkington Glass Works has stated that it did not approach Railway authorities in the matter in view of its past experience. Indo-Asahi

Glass Co. wrote to the Railway Administration concerned in November 1959 but has not yet received a reply.

4.7. *Recommendation No.* 6.

> "The manufacturers should try to improve the packing of sheet glass so that it can withstand the driage of timber used even in hot weather."

All producers have reported that necessary steps have been taken by them in this regard. The Development Wing also took up the matter with the manufacturers and it is satisfied that the units have taken steps to improve their packing.

4.8. *Recommendation No.* 7.

> "The glass industry should be given the same priority by the refractory manufacturers as has been agreed to by them for industries like iron, steel and cement, when the additional capacity of the refractories comes into being."

4.8.1. The Development Wing informed us that the Panel on Refractory Industry set up by Government which was composed of both refractory and glass manufacturers, had considered the requirements of the glass industry, specially the sheet glass industry, for refractories. The requirements of the various factories during the period 1958—61 were assessed as follows :—

(In tons)

S. No.	Name of the factory	1958	1959	1960	1961	Total
1	Seraikella Glass Works Ltd. .	297	334	364	354	1349
2	Indo-Asahi Glass Co. Ltd. .	2015	635	1738	635	5023
3	Hindusthan-Pilkington Glass Works Ltd. . . .	675	92	964	92	1823
4	U.P. Glass Works Ltd . .	235	355	295	295	1180
	TOTAL .	3222	1416	3361	1376	9375

The Development Wing has further stated that the supply position of refractories has improved with the coming into production of some new units and that the standard sizes of refractories were now available ex-stock.

4.8.2. The Ministry of Commerce and Industry informed us that except for special items like Corehart, Zinconite etc., which have to be imported, the refractory manufacturers do not anticipate any serious difficulty in meeting the demand of the glass industry for refractories. As regards those types which are not manufactured in the country, the Ministry has stated that facilities for their import in reasonable quantities would continue to be provided to the industry. Further, manufacturers of sheet glass were advised that in case they encountered difficulties in meeting their requirements of refractories from indigenous sources, they would be assisted with out of turn supplies to the extent possible if the matter were brought to the notice of the Development Wing.

4.8.3. The industry has also complained about unduly long periods in the delivery of refractories. Hindusthan-Pilkington Glass Works has stated that deliveries of indigenous materials are being extended to 2 to 3 years. Seraikella Glass Works and U.P. Glass Works have also made similar complaints and added that good quality refractories are not easily available from indigenous sources. This matter is dealt with in paragraph 9.7.

Present position of the industry

5. At the time of the last inquiry there were four units manufacturing sheet glass namely (i) Seraikella Glass Works (Private) Ltd., Kandra, (ii) Hindusthan-Pilkington Glass Works Ltd., Asansol, (iii) U.P. Glass Works Ltd., Bahjoi, and (iv) Indo-Asahi Glass Co. Ltd., Bhurkunda. Of these, the first three were in regular production and Indo-Asahi Glass Co. was expected to commence production within a short period. This factory was commissioned in October 1957. There are therefore four factories at present engaged in the production of sheet glass in the country. The industry has made notable progress since the last inquiry. Its production has increased substantially and the range of its products has been considerably diversified. Three of the producers, Seraikella Glass Works, Hindusthan-Pilkington Glass Works and U.P. Glass Works had submitted plans for expansion of their factories. Of these, Seraikella Glass Works has already completed its scheme of expansion and will shortly achieve higher output. Besides plain sheet glass it manufactures blue sheet glass and has plans to produce glass of other colours and to polish thick sheet glass for which it has installed the necessary equipment. Hindusthan-Pilkington Glass Works and Indo-Asahi Glass Co. have been producing sheet glass of thicker varieties for which the demand in the country is rapidly developing. The industry is now in a position to meet the bulk of the domestic requirements of sheet glass.

Domestic capacity

6.1. *Present capacity.*—At the last inquiry, the rated capacity of the industry was assessed at 106·60 million sq. ft. The following statement shows the annual installed capacity of the four units as furnished by them as well as by the Development Wing together with the capacity adopted at the last inquiry :—

(In million sq. ft.)

Name of the producer	Annual capacity on treble shift		
	At the last inquiry (1957)	At present	
		As reported by the producer	As furnished by the Development Wing
1. Hindusthan-Pilkington Glass Works Ltd.	30·00	30·00	30·96
2. Seraikella Glass Works (P) Ltd.	28·80	36·00	28·80
3. Indo-Asahi Glass Co. Ltd.	36·00	54·00	36·00
4. U.P. Glass Works Ltd.	11·80	18·60	11·80
TOTAL	106·60	138·60	107·56

There were a few discrepancies between the figures reported by the producers and those furnished by the Development Wing. These were discussed at the public inquiry. The representative of Seraikella Glass Works stated that the capacity reported by him at 36 million sq. ft. was inclusive of the additional licensed capacity of 7·2 million sq. ft. for which the necessary equipment has already been installed. This was confirmed by the representative of the Development Wing and accordingly we have accepted the revised capacity for this unit. The representative of the Indo-Asahi Glass Co. claimed that the rated capacity of his factory was 54 million sq. ft. whereas the capacity registered with the Development Wing is 36 million sq. ft. We had adopted the latter figure at the last inquiry and as no additional capacity has been licensed since then, we see no reason to change it. The representative of U.P. Glass Works admitted that the capacity reported by this unit included the additional capacity of 7·2 million sq. ft. recently licensed to it but since it will take some time to materialise we have not taken it into account in arriving at the present rated capacity of the industry. The present capacity of the industry which we adopted is as follows :—

(In million sq. ft.)

Name of the producer	Present capacity
1. Hindusthan- Pilkington Glass Works	30·00
2. Seraikella Glass Works	36·00
3. Indo-Asahi Glass Co.	36·00
4. U.P. Glass Works	11·80
TOTAL .	113·80

6.2. *Future expansion.*—We have been informed by the Development Wing that additional capacity for the manufacture of sheet glass has been licensed by way of substantial expansion of the existing units as well as the establishment of new ones. U.P. Glass Works has already been granted a licence to increase its capacity from 11·80 million sq. ft. to 19 million sq. ft. and the scheme of Hindusthan-Pilkington Glass Works for additional capacity of 24 million sq. ft. has been approved. Hindusthan-Pilkington Glass Works will attain the additional capacity when it switches over completely to the 'Pittsburgh system' for the manufacture of sheet glass. It is expected that the additional capacity of these two units, *i.e.*, 31·20 million sq. ft. will be commissioned in 1961. Further, the following two new units have been licensed to manufacture sheet glass: (i) Madras Glass Works will have a rated capacity of 18 million sq. ft. and (2) Indo-Belgian Glass Works Private Ltd. a capacity of 7·2 million sq. ft. The factory of Madras Glass Works is proposed to be located at Tiruvottiyur, Madras and is expected to go into production in 1961. Indo-Belgian Glass Works, which has entered into technical collaboration with Messrs. Ateliers de Construction P. Rousseau de Proidmont, Belgium, proposes to set up its factory in Madras. It has placed orders for plant and equipment designed in accordance with the 'Pittsburgh system' and expects to commence production in 1962. In addition, the schemes submitted by three prospective producers have been approved: *viz.*, (1) R. G. Ganeriwalla, Calcutta for a capacity of 8 million sq. ft., (2) Vallabh Glass Works, Gujarat, for a capacity of 27·20 million sq. ft., and (3) Cotton Agents Private Ltd., Porbandar for a capacity of 26·80 million sq. ft. It is understood that all of them have made arrangements to obtain foreign technical know-how for the manufacture of sheet glass and their combined capacity of 62 million sq. ft. is likely to come into operation sometime after 1962. From the evidence available to us we estimate that the present rated capacity of the indigenous sheet glass industry will be enhanced from 113·80 million sq. ft. to 163 million sq. ft. in 1961 and will be further stepped up to 170·20 million sq. ft. in 1962. When all the other additional schemes are completed the aggregate rated capacity of the domestic industry will be of the order of 232·20 million sq. ft. It would appear that the present installed capacity will be more than doubled in the course of the next four years. We may add that according to the announcement made by Government in April 1960 sheet glass is one of the forty-nine industries in respect of which licences for setting up fresh capacity will be issued freely.

Domestic Production

7.1. The production of sheet glass increased from 46·86 million sq. ft. in 1956 to 81·73 million sq. ft. in 1958 and 79·54 million sq. ft. in 1959. The following table shows the actual production of sheet glass in terms of 2 m.m. thickness since 1957 as reported by the producers :—

(In million sq. ft.)

Name of the producer	1957	1958	1959	1960 (Jan.-June).
1. Hindusthan-Pilkington Glass Works Ltd.	18·44	21·42	23·96	13·19
2. Seraikella Glass Works (P) Ltd.	28·57	30·61	28·26	21·32
3. Indo-Asahi Glass Co. Ltd.	4·25	24·22	19·97	8·15
4. U.P. Glass Works Ltd.	5·41	5·48	7·35	4·02
TOTAL	56·67	81·73	79·54	46·68

The figures of production furnished by the Development Wing for the same period showed some divergence from those stated above which was perhaps due to different mode of reporting. We discussed this matter at the public inquiry and have decided to adopt the figures of production in terms of 2 m.m. as reported to us by the producers. Domestic production of sheet glass in 1959 increased by about 70 per cent from the level of 1956. Though the installed capacity remained more or less stationary there was progressively higher utilisation which was about 75 per cent of the rated capacity in 1959. Taking the figures of production in January-June 1960 and making allowance for periods of closure of the three factories for cold repairs during this period it is expected that the output during the whole year will be of the order of 100 million sq. ft. It will be seen that the output of sheet glass has steadily increased from 1957 due to increases recorded by all the units and contribution made by Indo-Asahi Glass Co. which commenced production in October 1957.

7.2. A statement showing the break-down of production by gauges in 1957, 1958, 1959 and 1960 (January-June) is given in Appendix III. It will be observed that the industry has diversified its production to meet the demand for sheet glass of thicker gauges. While the bulk of the industry's total output consists of 16/18 oz. and 24 oz. sheet glass a definite shift towards production of thicker gauges has become perceptible in the past three years. In 1957 the production of 16/18 oz. gauge constituted 83·43 per cent of the total production, 24 oz. formed 12·50 per cent, 32 oz. 2 per cent and other gauges accounted for 1·72 per cent while in 1959 the output of 16/18 oz. was about 66·19 per cent, 32 oz. 5·42 per cent and other varieties amounted to 8·19 per cent. Both Hindusthan-Pilkington Glass Works and Indo-Asahi Glass Co. have been gradually increasing their production of sheet glass of 3/16″ and 7/32″. During the discussion at the public inquiry, however, we were informed that the demand for 3/16″ glass which is used for making safety glass for automobiles is not being met in full as this variety is being produced by only one manufacturer and its total output is not adequate. As automobiles is a vital industry, we trust that Hindusthan-Pilkington Glass Works would endeavour to meet the full requirements of this class of consumers. As more capacity is being established in the industry, there is every likelihood of further diversification of production and meeting the growing demand of the country for thicker varieties of sheet glass.

7.3. Our attention has again been drawn to the severe shortage of wagons for the movement of sheet glass from factories to principal markets in the country. As mentioned in para 4.4.1. and 4.4.2. almost all manufacturers have complained that stocks accumulate at their works and their despatches become very irregular on account of non-availability of wagons. At the public inquiry the representative of the All-India Glass Merchants' Association and other consumers complained that they were not getting enough supplies and consequently artificial shortages of sheet glass arise periodically. We understand that although sheet glass is now placed in the higher transport classification 'E' and commodity quotas are fixed on Preferential Traffic Schedule there has been no improvement in the allocation of wagons to different destinations. We are aware that the railway lines which serve the areas where sheet glass factories are located are heavily congested owing to establishment of other heavy industries there. We, however, hope that the Railway Administration concerned would see its way to allocate more wagons to the sheet glass factories so as to prevent accumulation of stocks at the factories and facilitate movement of finished goods to meet the requirements of principal consuming centres.

Domestic demand

8. At the last inquiry we estimated the domestic demand for sheet glass at 55 million sq. ft. in 1957 and having regard to the tempo of industrial and building activity in future expected an annual increase of 5 million sq. ft. in the demand in the next three years. These estimates have, however, proved to be on the low side. In connection with our present investigation, we have received varying estimates of demand from the Development Wing and the producers. The Development Wing has expressed the view that the current demand is about 100 million sq. ft. and that it would rise to 130 million sq. ft. by 1962. Hindusthan-Pilkington Glass Works Ltd. has estimated the demand for sheet glass to be 87 million sq. ft. in 1960 and expects it to rise annually by about 12 million sq. ft. to 123 million sq. ft. in 1962. Seraikella Glass Works has placed the current demand at 75 million sq. ft. and expects it to rise to 100 million sq. ft. in 1963. Indo-Asahi Glass Co.'s estimates are 110 to 118 million sq. ft. for 1960 and 160 to 171 million sq. ft. for 1963. It will be seen that there is considerable divergence of views regarding the domestic requirements of sheet glass. The total availability of sheet glass in the country consisting of sales of indigenous product and imports was 58·05 million sq. ft. in 1957, 74·17 million sq. ft. in 1958 and 79·27 million sq. ft. in 1959. It should be noted, however, that while the figures of sales are in terms of 2 m.m. those relating to imports are by actual gauges.

At the public inquiry it was mentioned that on account of drastic curtailment of imports the domestic requirements of sheet glass were not fully met and there was therefore a large unsatisfied demand. But we have no means to make a quantitative assessment of it. Taking into account the increased production in 1960 the estimate of current demand of 100 million sq. ft. furnished by the Development Wing appears to be reasonable. As regards the future demand it may be mentioned that the annual average rate of increase in the availability of sheet glass in the past three years was about 11 million sq. ft. The demand for sheet glass emanates mainly from three sources *viz.*, (i) building and other constructional activity; (ii) automobile industry and railways; and (iii) mirror-making, picture frames and furniture manufacture, the demand for which develops as a result of improvement in the standards of living. We have obtained the breakdown of demand in broad categories on the basis of intake of orders from Hindusthan-Pilkington Glass Works as well as from Indo-Asahi Glass Co. and it appears that the largest demand for sheet glass is from the building and constructional activity. Next in importance are mirror-making, safety and toughened glass and other miscellaneous requirements. It is beyond doubt that the tempo of building and constructional activity is likely to increase during the Third Five Year Plan. During the discussion the consensus of opinion was that the demand for sheet glass from all sectors is likely to increase in future and the rate of annual increase in the next three years would be in the neighbourhood of 15 million sq. ft. over the level of 1960. We agree with this view.

Raw materials

9.1. The principal raw materials required for the manufacture of sheet glass are sand, soda ash, limestone, sodium sulphate, dolomite, flourspar and arsenic trioxide. In addition, coal and furnace oil are used as fuel and refractories are required for lining the furnace. The Development Wing has stated that the raw material position has remained more or less the same as at the time of the last inquiry.

9.2. *Sand* : The quality of indigenous sand has been reported to be satisfactory but it seems that some producers of sheet glass have found it necessary to wash it in order to reduce its iron content. At the public inquiry Hindusthan-Pilkington Glass Works informed us that it proposes to instal a sand-washing plant having a daily capacity of 80 tons per single shift. The Glass Technologist of the Government of Uttar Pradesh stated that the Government of Uttar Pradesh has set up a sand-washing plant with a daily capacity of 18 tons and it is proposed to extend the capacity to 100 tons per day during the Third Five Year Plan. The main difficulty with which most of the manufacturers are faced relates to shortage of wagons for the transport of sand to which we have referred in paragraph 4.4.3. During the discussion the representative of the Government of West Bengal made a suggestion, which, in our view, deserves careful attention, that sheet glass manufacturers could substitute sand by ground quartz and that it would prove a satisfactory alternative raw material. The representative of Indo-Belgian Glass Works Ltd., a prospective producer also stated that the Government of Madras is setting up a quartz crushing plant at Salem where plenty of quartz of suitable quality has been found. The daily capacity of this plant will be 24 tons which will be mainly utilised for helping small-scale glass factories and pottery works. The firm has approached the Government of Madras to expand its capacity and supply ground quartz to its factory. We suggest that the established sheet glass manufacturers should utilise quartz if available from sources in the vicinity of their factories and instal the necessary equipment for processing the material. It will enable the factories to obtain regular supplies of the raw material and save freight charges of transporting it over long distances relieving the burden on railway lines which are already congested with heavy traffic. The State Government concerned should offer necessary assistance to sheet glass manufacturers in prospecting the raw material in their respective regions.

9.3. *Soda Ash* :

9.3.1. Until recently the sheet glass industry has been using heavy soda ash and as it is not produced in the country the industry's requirements are met through imports. It was suggested at the last inquiry that light soda ash, which is available from indigenous sources, may be substituted partially in place of heavy soda ash. But the consensus of opinion was that the industry should continue to use heavy soda ash for the types of sheet glass it was manufacturing. Subsequently, we were informed that the manufacturers were advised by Government to use light soda ash in certain proportions ranging from 20 to 40 per cent of their total requirements. This matter was discussed at length at the public inquiry. The representatives of the industry stated that light soda ash is generally not used in the manufacture of sheet glass either in the U. K. or in Japan and secondly, having regard to the type of equipment and process that they are using, light soda ash was not at all suitable. Their main arguments against its use were that—

(1) light soda ash flies off into regenerators and chokes the passages and increases corrosion of the superstructure of the furnace. Further, the temperature of the furnace is not maintained at the required level;

(2) it affects the quality of glass in so far as its composition and homogeneity are concerned. Indo-Asahi Glass Co. is at present using light soda ash in the proportion of 25 per cent light ash and 75 per cent heavy ash. We were informed during our visit to its factory that it was unable to express an opinion on the point at issue because the experiment of using light soda ash was of short duration and has to be examined from its reactions on the furnace, the homogeneity of the finished product, the regenerating system and the quality of the glass. We also took the opportunity of discussing this problem with the officers of the Central Glass and Ceramic Research Institute and their view was that in small furnaces light soda ash could be used but in all large furnaces where producer gas is used as the firing agent, heavy soda ash is essential. They, however, pointed out that light soda ash can be used by making suitable modifications in the technique of mixing and charging the batch and by using better type of refractories in the regenerators.

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9.3.2. During the discussion the consensus of opinion was that heavy soda ash was essential for the manufacture of quality sheet glass. After considering the various aspects, we feel that the problem really is whether there is adequate quantity of heavy soda ash available so as to meet the requirements of the sheet glass industry. We have been informed by the Development Wing that supplies of heavy soda ash to the glass industry including sheet glass manufacturers during the past three years were 45,188 tons in 1957; 45,163 tons in 1958 and 52,688 tons in 1959. As new units are coming into production, the demand for heavy soda ash is rapidly developing. In the manufacture of sheet glass we understand that about 1,200 tons of soda ash are required for ten million sq. ft. of sheet glass. Assuming the rise in production of sheet glass in the next two years to 120 million sq. ft. the industry's requirements of heavy soda ash would be about 15,000 tons. If 80 per cent of the industry's requirement is to be met in the form of heavy soda ash the balance of 20 per cent represents only about 3,000 tons. If we continue to import for sometime to come light soda ash to fill the gap between the domestic demand and indigenous production of soda ash we see no reason why a somewhat higher quantity of heavy soda ash cannot be imported to meet the full requirements of sheet glass industry and the quota of light ash fixed for sheet glass diverted to other consuming industries which can use it without difficulty. Alternatively, at the level of imports of heavy soda ash in 1959, namely, 56,927 tons, we are of the opinion that by slight adjustment in the allocation of heavy soda ash to different sections in the glass industry itself, it should be possible to meet the requirements of heavy soda ash of the sheet glass industry in full. We, therefore, recommend that Government, should make available heavy soda ash to meet the full requirements of the sheet glass industry in the country. We are informed that the existing capacity of the indigenous soda ash industry is of the order of 2·17 lakh tons a year and with additional schemes being completed the anticipated production in 1960-61 will be 250,000 tons. For the manufacture of heavy soda ash a total capacity of 72,000 tons a year has already been licensed by Government. As schemes for the production of heavy soda ash are in various stages of implementation we suggest that Government should persuade the indigenous manufacturers of soda ash to undertake the production of heavy soda ash as soon as possible. The representatives of the sheet glass industry expressed the view that they would prefer synthetic soda ash to Magadi heavy soda ash even at a higher price as the latter contains impurities and affects the quality of glass adversely. When the indigenous heavy soda ash is produced it may initially be more expensive than domestic light soda ash or imported heavy soda ash. The producers, however, have agreed to pay reasonable prices for indigenous soda ash whenever it is made available. In any event, for the proper development of this protected industry, indigenous production of necessary raw materials should be encouraged.

9.4. *Limestone and dolomite* : Both these materials are available in the country. Two of the producers have complained of non-availability of wagons which results in periodical shortage of these materials at their works.

9.5. *Sodium sulphate* : The indigenous source of supply of sodium sulphate was Rajasthan. But as the natural deposits are now exhausted and indigenous production of sodium sulphate is not adequate to meet the demand of the sheet glass industry, the requirements of the industry are partly met by imports.

9.6. *Coal* : The greatest difficulty with which the industry has now been faced is in regard to the supply of coal of the grades required by it. In the light of the position set out in paragraph 4·2 of this report the industry can get its supplies of coal at best in the form of 50 per cent Sel "B" grade coal and 50 per cent grade I coal. During the discussion at the public inquiry it appeared that the representatives of the industry were considerably perturbed by this development. But they appreciated that in view of the shortage of high grade coal, which is not adequate to meet the full requirements of all important consumers in the country, it was inevitable that the manufacturers of sheet glass will have to fall in line and be prepared to utilise coal of grades lower than those they have hitherto been used to. The manufacturers of sheet glass have appreciated the position and have pleaded for the following facilities and measures of assistance :

(i) They should be given sufficient time to effect necessary adjustments in their plant and equipment;

(ii) To compensate them for lower fuel efficiency of inferior grade coal, they should be allotted a larger quantity of coal;

(iii) To maintain adequate supply of gas, facilities should be granted early to import additional equipment for gas producers; and

(iv) They should be supplied with a list of collieries which can supply coal with ash fusion point of 1250°C and above.

These requests of the industry were discussed at length at the public inquiry. In regard to the first point, it was contended by the manufacturers that as their furnace and other equipment are designed for superior grades of coal, certain modifications and additions to the existing equipment would be necessary before they can switch over to the use of inferior grades. The representative of the Development Wing pointed out that the matter had already been taken up with the Coal Controller and it was hoped that *status quo* would be maintained for about a year or so during which period such changes as are considered necessary in its plant and equipment may be carried out by the sheet glass industry. As regards the second point, it was quite reasonable and the Chief Combustion Engineer expressed the view that there would be no difficulty in acceding to it. With regard to the third point, the representatives of the industry stressed that as the gas producers which they have installed have a limited capacity for intake of coal, their capacity will have to be expanded if lower grade of coal is used. We have given our careful thought to this matter and since the industry is agreeable to use lower grade coal, we recommend that Government should, after making technical assessment of the requirements of each unit, grant necessary facilities for the import of such equipment as early as possible so that readjustment of plant capacity to utilise lower grades of coal could be effected smoothly. In regard to the last point, the representatives of the industry explained that their main problem is to maintain the fusion point around 1300°C in their gas producers and as such they should be supplied with coal having this fusion point and that for this purpose they should be supplied with a list of collieries which can supply them with coal with ash fusion point of 1250°C and above. The Chief Combustion Engineer has agreed to supply the information and we hope that the industry would be able to make the necessary adjustments in time to be able to use lower grades of coal. Although the revised grading of coal was suggested in October 1959, none of the units has, in spite of the readiness of the Chief Combusion Engineer to depute his staff, carried out tests of the use of lower grades of coal in its gas producer. The representative of Seraikella Glass Works has now agreed to carry out such tests in the presence of the technical staff of the Chief Combustion Engineer.

9.7. *Refractories* : Another item about which the industry has complained is the irregular delivery of refractories. While the position regarding the supply of fire bricks has undoubtedly improved there is still considerable difficulty in obtaining adequate supplies of fire blocks of siliminite. The representative of the Development Wing stated that two new units which have the necessary equipment will specialise in the manufacture of fire blocks for the glass industry. He added that new capacity for the manufacture of silica refractories will be 13,200 tons in 1960-61 and 47,100 tons in 1961-62. When these capacities are commissioned it is expected that the requirements of the glass industry will be adequately met. We also understand that Assam Siliminite Co. Ltd. is now expanding and has plans to manufacture 46,000 tons of refractory materials by 1961.

9.8. The industry has complained that one of the difficulties faced by it is shortage of wagons for the movement of raw materials. The producers are unable to obtain wagons in spite of commodity quotas having been fixed under Preferential Traffic Schedule for movement of raw materials to their factories. This results in dislocation in the production programmes and sometimes in closing down of furnaces. With such interruptions the cost of production of sheet glass is bound to go up. The producers have to obtain their raw materials from long distances and unless the Railway Administration concerned gives them adequate facilities for the movement of raw materials they cannot keep up to their schedules of production. The representatives of the industry have therefore pleaded that transport classifications of the raw materials should be suitably upgraded. We have examined this issue and recommend that the Railway Administration should examine the request of the industry and take such appropriate steps as may be deemed feasible.

Quality of the indigenous product

10.1. At the last inquiry we observed that the manufacturers had the necessary equipment and technical know-how to produce sheet glass of superior quality provided there was reasonable demand for it. Further we expressed the view that the glass which was sold as of ordinary quality and for which there was demand in the country had improved in quality and was accepted as suitable for mirror making. The general opinion indicated that the quality of indigenous sheet glass had improved. There were, however, complaints regarding packing of sheet glass. As mentioned in paragraph 4.7, the manufacturers claim to have taken necessary steps in the matter.

10.2. In connection with the present inquiry the Development Wing has stated that the quality of indigenous sheet glass has substantially improved. Seraikella Glass Works and Hindusthan-Pilkington Glass Works have reported that they have not received any complaint from consumers against the quality of their products. Indo-Asahi Glass Co. has observed that defects in its products complained of by consumers were of a trivial nature and steps have been taken to remove such defects. We have received divergent opinions regarding the quality of indigenous sheet glass from consumers and importers. The Director-General of Supplies and Disposals has stated that of the four producers only Hindusthan-Pilkington Glass Works and Indo-Asahi Glass Co. manufacture sheet glass in accordance with his requirements while the other two normally ask for deviations in specifications relating to thickness, surface etc. While many other consumers have expressed the view that there has been considerable improvement in the quality of the indigenous product, some have pointed out that defects such as waviness, uneven thickness and distortion still continue to persist. The All India Glass Merchants' Association has stated that indigenous sheet glass is not free from defects such as bubbles, blisters and uneven thickness. We are advised that a certain amount of waviness or distortion of vision is inherent in the process by which the existing factories manufacture sheet glass and cannot be completely eliminated. We have found that the bulk of the demand in the country is for the ordinary quality though the manufacturers claim that they are capable of producing S. Q. and S. S. Q. glass. While it is true that indigenous sheet glass is not entirely free from the above-mentioned defects, the consensus of opinion at the public inquiry was that the quality of indigenous sheet glass has considerably improved and is, by and large, satisfactory. There is a distinct emphasis on the manufacture of thicker varieties of sheet glass which is used for mirror-making, safety glass, table-tops and various other industrial applications. It is claimed that there will be further improvement in quality when Hindusthan-Pilkington Glass Works and Indo-Belgian Glass Works commence production by the new process *viz.*, "Pittsburgh System" which will enable them to produce glass sheets of superior quality.

11.1. *Import control policy.*

Import control policy and imports

11.1.1. For the purpose of import control, sheet glass is grouped with plate glass and is classified under Serial No. 244 (Part IV) of the Import Trade Control Schedule. From July 1957 to March 1960 no licences were granted to established importers for import of sheet glass. It is only in the current period *i.e.*, April-September 1960 that established importers are being allowed to import sheet glass above $\frac{1}{4}''$ in thickness and coloured sheet glass other than blue sheet glass. Details of the import control policy in regard to sheet and plate glass from July 1957 are given below :-

July-September 1957; *October* 1957-*March* 1958; *April-September* 1958: No licences were granted to established importers during these licensing periods.

October 1958-*March* 1959 : Established importers were granted a quota of 5 per cent of one half of their best year's imports but the quota licence was valid only for import of plate glass.

April-September 1959 : While the quota of the established importers remained unchanged at 5 per cent during this period, the quota licence was valid for import of wired glass, figured glass, welding glass, opaque glass and all other types of plate glass (other than laminated type safety glass) which were assessed to duty by the customs under I.C.T. Item No. 60(6).

October 1959-*March* 1960: The quota of the established importers was increased to 10 per cent but other conditions remained the same as in the April-September 1959 period. In addition, actual users' applications from mirror manufacturers for import of plate glass were considered *ad hoc*.

April-September 1960 : The licensing policy was the same as that in the preceding period subject to this change that during the current period the quota licence is also valid for import of sheet glass above ¼″ in thickness and coloured sheet glass other than blue sheet glass in addition to other types of glass mentioned under April-September 1959 period.

11.1.2. At the public inquiry it was brought to our notice that consumers of sheet glass of thinner gauges below 10 oz. as well as manufacturers of scientific instruments such as microscopes who need thin glass of superior quality, experienced considerable difficulties in obtaining their requirements. As the needs of these consumers are small there should be no difficulty in allowing imports of such sheet glass for industrial use on an *ad hoc* basis.

11.2. *Imports*.—As a result of the restrictive import policy, there was a sharp decline in the imports of sheet glass during the past three years. In 1957 the imports were 5·79 million sq. ft. valued at Rs. 27·34 lakhs; in 1958 0·616 million sq. ft. valued at Rs. 3·57 lakhs; and in 1959 0·20 million sq. ft. valued at Rs. 1·80 lakhs.

Exports

12. We are informed that efforts are being made by the Export Directorate of the Ministry of Commerce and Industry to foster exports of sheet glass. Government have already formulated a scheme for rebate of import duty on raw materials etc., as an incentive to exports. The Railway Board has also approved concessional freight rates for sheet glass from certain stations to specified ports. Hitherto exports of sheet glass have, however, been very small.

Existing rate of duty

13. Sheet glass is assessed to duty under Item No. 60(7) of the First Schedule to the Indian Tariff Act, 1934 the relevant extract from which is reproduced below :

Item No.	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The U.K.	A British Colony	Burma	
60(7)	Sheet glass	Protective	70 percent *ad valorem*	..	..	24 per cent *ad valorem*	December 31st, 1960

Estimates of cost of production and fair ex-works prices of Indigenous sheet glass

14.1. Our Assistant Cost Accounts Officer has examined the cost of production of sheet glass manufactured by Hindusthan-Pilkington Glass Works Ltd. and Indo-Asahi Glass Co. The accounts of the former are closed on 31st October and those of the latter at the end of December every year. The periods selected for investigation of costs were 1958-59 in the case of Hindusthan-Pilkington Glass Works and 1958 for Indo-Asahi Glass Co. We have discussed the actual costs with the representatives of the two companies and details of the cost data are given in the cost reports which are being forwarded as separate confidential enclosures to this report.

14.2. The Assistant Cost Accounts Officer has not been able to obtain adequate data for preparing estimates of future costs for Hindusthan-Pilkington Glass Works because the Company proposes to change its present manufacturing process to 'Pittsburgh process' by about the middle of 1961 and raise its capacity to 54 million sq. ft. This will entail suspension of operational activity for a while which will result in loss of production. Further, the Company was unable to give details of its capital expenditure for expansion as these have yet to be finalised in consultation with its foreign collaborators. As regards Indo-Asahi Glass Co. we find from its accounts that after it purchased the fixed assets of the former Sodepur Glass Works from the Industrial Finance Corporation of India it added assets of the value of Rs. 36·93 lakhs and capitalised a sum of Rs. 34·62 lakhs as remodelling expenses. We have not been able to obtain full details regarding depreciation on the fixed assets purchased by the Company and we do not consider several items of capitalised expenditure as properly admissible for computing the return on capital. Besides, the establishment and overhead expenses are in our view disproportionately high. These factors have tended to push up their costs. In the light of these considerations, we are of the view that it would not be fair to take the costs of this company as representative of the industry for purposes of determining the quantum of protection. The alternative before us is, therefore, to adopt the costs of Hindusthan-Pilkington Glass Works for this purpose. Though it has not been possible to work out the estimates of future costs in the case of this unit, its actuals have been precisely worked out and reflect the increases that have taken place during the costed period. Further, as a result of the modernisation of its plant and equipment and achievement of higher output than the present production at about 30 per cent of its capacity its total conversion costs in future are likely to go down. In the meantime, we consider it reasonable, therefore, to take the actual costs of production of Hindusthan-Pilkington Glass Works for the year 1958-59 and add 5 per cent to provide a margin for probable increase in the cost of raw materials. The following statement gives the break-up of the cost of production in Hindusthan-Pilkington Glass Works Ltd. which we have adopted for determining the quantum of protection.

Statement showing the break-up of cost and fair ex-works price per 100 *sq. ft. of sheet glass for the year* 1958-59

Sizes	16/18 oz.	24 oz.	26 oz.	32 oz.	3/16″	7/32″
Production in 100 sq. ft.	23,670	59,443	204	15,685	2,383	29,937
Yield	68·82%	78·89%	63·12%	70·68%	74·20%	74·20%
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Raw material cost @ 0·062 per lb.	7·18	10·77	12·47	15·51	18·91	21·17
2. Conversion charges .	11·73	15·30	20·03	27·82	34·78	35·62
3. Depreciation . .	2·22	2·83	3·79	5·33	6·69	6·78
4. Packing materials . .	4·71	7·07	8·17	10·17	12·40	13·88
5. Cost of production . .	25·84	35·97	44·46	58·83	72·78	77·45
6. Return (@ 12% on capital employed)	3·76	5·28	6·42	8·93	11·17	11·43
7. Fair ex-works price .	29·60	41·25	50·88	67·76	83·95	88·88
8. Or per sq. ft. . .	0·30	0·41	0·51	0·68	0·84	0·89

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14.3. The above estimates are based on the level and pattern of production attained in 1958-59. Depreciation has been calculated at the normal income-tax rates including second shift allowance on the written down value. As the sheet glass industry requires heavy capital investment, we have provided a return of 12 per cent on the capital employed, the element of working capital having been estimated to be equivalent to three months' cost of production.

C. i. f. prices and landed costs

15. Since imports of sheet glass of gauges that are being indigenously produced have been banned, it has not been possible for us to obtain latest c.i.f. prices from the Collectors of Customs. We have, however, received from importers c.i.f. prices based on f.o.b. quotations in Belgium and United Kingdom where, it is reported, the level of prices of sheet glass has not altered since 1957. We have also received from another importer c.i.f. prices based on similar quotations in Japan. The Embassy of India in Brusselles, Belgium has also furnished c.i.f. prices of sheet glass of different gauges of Belgian origin. We discussed them at the public inquiry and have adopted the following

prices for comparison with the cost of production of indigenous sheet glass in the specified gauges.

Size of sheet glass	Country of origin	Rs. per 100 sq. ft.
1. 16·18 oz.	Japan	18·11
2. 24 oz.	Japan	27·17
3. 26 oz.	Belgium	39·94
4. 32 oz.	U.K.	44·89
5. 3/16″	Belgium	49·00
6. 7/32″	Belgium	54·00

Comparison of the fair ex-works prices of indigenous sheet glass with the landed costs ex-duty of imported sheet glass

16. We give below a comparison of c.i.f. prices and landed costs without duty of imported sheet glass with the fair ex-works prices of indigenous sheet glass.

(Rs. per 100 sq. ft.)

Sizes.	16/18 oz.	24 oz.	26 oz.	32 oz.	3/16″	7/32″
1. C. i. f. price	18·11	27·17	39·94	44·89	49·00	54·00
2. Clearing charges at 1%	0·18	0·27	0·40	0·45	0·49	0·54
3. Landed cost without Duty	18·29	27·44	40·34	45·34	49·49	54·54
4. Fair ex-works price	29·60	41·25	50·88	67·76	83·95	88·88
5. Difference between 4 and 3	11·31	13·81	10·54	22·42	34·46	34·34
6. Difference as percentage on c.i.f.	62·45	50·83	26·39	49·94	70·33	63·59
7. Existing rate of duty	70%	70%	70%	70%	70%	70%

Measure of protection

17. It will be seen from the above comparison that the domestic industry suffers from disadvantages ranging from 26·39 per cent for 26 oz. sheet glass to 70·33 per cent in respect of 3/16″ glass *vis-a-vis* the imported product. Even in regard to 16/18 oz. glass which still constitutes the largest percentage of indigenous production the rate of duty

indicated is as high as 62·45 per cent. While the disadvantage in respect of 24 oz. and 26 oz. is lower, the percentage of indigenous output in these gauges is comparatively small. It is particularly in thicker varieties of glass whose production at present falls short of the domestic demand, that the disadvantage appears to be the highest. The weighted average of the duties as indicated above works out to 59·58 per cent on c.i.f. prices. This does not take into account freight disadvantage to the domestic producer, if any, *vis-a-vis* imports. This has, however, been taken into consideration while recommending the continuance of protection at the existing level. At present imports of sheet glass of gauges manufactured in the country are negligible and in view of the present balance of payments position there does not seem to be any likelihood of relaxation in the restrictions on imports in the near future. On this ground the Development Wing has expressed the view that tariff protection has lost its significance. But this is not a correct perspective from which the question of continuance of protection should be judged. While the present position is that import restrictions on balance of payments considerations afford a sheltered market to the indigenous product, it is important that the domestic sheet glass industry should develop along sound lines. From the evidence available to us we have found that though production of thicker varieties of sheet glass has increased since the last inquiry, it is still confined to one or two producers and that glass of thicker gauges for special uses is not available in adequate quantities and at reasonable prices. The application of sheet glass for building and industrial uses is rapidly increasing and there is likely to grow a demand for diversified products. It is therefore essential that consumers of all types who have been carrying the burden of protection for over a decade should be in a position to obtain sheet glass of grades required by them at fairly reasonable prices. Reduction in costs of production and therefore prices can be expected only with fuller utilisation of plant capacity and expansion of production. From this point of view we therefore consider that the progress of the industry needs to be carefully watched. All the four producers have requested for continuance of protection. They have pleaded that the domestic industry is still at a considerable disadvantage in the matter of supply of essential raw materials and their prices which are higher than those prevailing in foreign countries. We trust that the position in this regard will improve in the near future. In the meantime, new schemes of expansion and development have been licensed or approved and considerable investment in them is likely to take place in the next two or three years. When these projects go into production, it is reasonable to expect that the domestic requirements of sheet glass would be met at competitive prices. This will, however, take about two or three years. We do not therefore consider it advisable at this stage to withdraw the protection granted to the sheet glass industry. Since a few of the schemes of expansion and establishment of new units, with modern equipment and more economical process of manufacture, will be commissioned in 1961, we think that a more realistic assessment of the cost of production would become possible in 1962. We, therefore, recommend that protection granted to the sheet glass industry should be continued at the existing level of duty for a period of two years, that is, upto 31st December 1962.

Selling system and selling prices

18.1. The producers have adopted different systems for sale of their products. Hindusthan-Pilkington Glass Works has two selling agents with specified areas for their operations. The agents have widespread selling organisations and considerable experience of distributive trade; they have appointed dealers who work under them in their respective areas. Prices are fixed by the Company and the agents are bound by them. The selling organisations keep in continuous touch with dealers and report on current market conditions so as to enable the Company to plan its pattern of production. Indo-Asahi Glass Co. has a sole selling agency which has its offices in four main markets *viz.*, Calcutta, Bombay, Madras and Delhi. The agents book orders through their offices from all over the country. Seraikella Glass Works has agents at important centres and accepts orders through them while it deals with consumers direct in other places. The Company has claimed that its agents are not allowed to charge prices higher than those fixed by it. The U.P. Glass Works markets its products through local agents at three centres and has appointed travelling agents for other centres. It also entertains orders direct from customers. While the selling system adopted by the producers seems to function satisfactorily so far as sales to different markets are concerned, the Director General of Supplies and Disposals has stated that neither Hindusthan-Pilkington Glass Works nor Indo-Asahi Glass Co. quotes against his tenders and therefore he has to place orders on their stockists. We discussed the matter at the public inquiry and it was pointed out that if the manufacturers entered into a rate contract with D.G.S. & D. they would be obliged to accept orders for small quantities which would be less than a wagon load and therefore uneconomical. Secondly, the terms and conditions covering insurance, breakage, cutting to size etc. on which they supply the goods to their agents would not be acceptable to the D.G.S. & D. In view of this, they have preferred that their selling agents or dealers working under them who have been accustomed to the procedures of rate contract with the D.G.S. & D. should continue to do so. But they are agreeable to quote direct against his tenders if certain terms and conditions are acceptable to the Director General of Supplies and Disposals.

18.2. We have received a complaint from the All India Glass Merchants' Association that the manufacturers have raised prices by about 25 per cent from the levels prevailing in 1957-58 and that they do not accept orders on the basis of prices fixed by them but only on prices current at the time of despatch. We have examined the selling prices of different gauges of sheet glass manufactured by each producer and have found that all of them have increased their prices in 1959-60. We have observed that Seraikella Glass Works has not altered its prices of 16/18 oz. to 24 oz. from 1957 for Calcutta market but has increased them slightly for Bombay and Madras. It has, however, increased its prices of 32 oz. from Rs. 67 to Rs. 75 per 100 sq. ft. throughout the country. The U. P. Glass Works has raised its price of 18 oz. by Re. 1

per 100 sq. ft. Indo-Asahi Glass Co. has maintained its prices of 16/18 oz. to 32 oz. at the levels of 1957 but has increased its prices of thicker varieties in 1959 by about 20 per cent. Hindusthan-Pilkington Glass Works has divided its marketing operations into four areas and has fixed prices for each variety of glass for the respective areas. The Company raised its prices for each gauge in all areas in September 1958. The maximum levels were brought into force as normal prices in 1959. When the Government of India took up this matter with the Company, it explained that the increase was necessitated by increase in the cost of raw materials and general rise in conversion costs. On a reference from Government, we examined the position and came to the conclusion that there was no justification for the increase in prices effected by the Company as the increase in cost of raw materials was more than offset by the fall in conversion costs as a result of larger output. The Company was, therefore asked to reduce its prices and it brought down the prices of thin sheet glass (cut sizes) upto 32 oz. by the amount of increase effected from 1st September 1958, with effect from 1st June 1960.

Summary of conclusions and recommendations

19. Our conclusions and recommendations are summarised below :

(i) The present rated capacity of indigenous sheet glass industry is 113·80 million sq. ft. It is expected to increase to 163·00 million sq. ft. in 1961 and further to 170·20 million sq. ft. in 1962.

[Paragraph 6.2.]

(ii) The domestic production of sheet glass in terms of 2 mm. thickness was 56·67 million sq. ft. in 1957, 81·73 million sq. ft. in 1958, 79·54 million sq. ft. in 1959 and 46·68 million sq. ft. during January-June 1960.

[Paragraph 7.1.]

(iii) The current domestic demand for sheet glass is estimated at 100 million sq. ft. During the next three years the demand is likely to increase at an annual rate of 15 million sq. ft. over the level of 1960.

[Paragraph 8.]

(iv) Government should make available heavy soda ash to meet the full requirements of the sheet glass industry in the country.

[Paragraph 9.3.2.]

(v) Government should, after making technical assessment of the requirements of each sheet glass unit, grant necessary facilities for the import of equipment for gas producers as early as possible so that readjustment of plant capacity to utilise lower grades of coal could be effected smoothly by the industry.

[Paragraph 9.6.]

(vi) The Railway Administration should examine the request of the industry for upgrading the transport classifications of raw materials and take such appropriate steps as may be deemed feasible.

[Paragraph 9.8.]

(vii) The quality of indigenous sheet glass has considerably improved and is, by and large, satisfactory. There will be further improvement in quality when Hindusthan-Pilkington Glass Works Ltd. and Indo-Belgian Glass Works commence production by the new process *viz.*, "Pittsburgh System" which will enable them to produce glass sheets of superior quality.

[Paragraph 10.2.]

(viii) Protection granted to the sheet glass industry should be continued at the existing level of duty of 70 per cent *ad valorem* for a further period of two years *i.e.* upto 31st December 1962.

[Paragraph 17.]

Acknowledgements

20. We wish to express our thanks to manufacturers, importers and consumers who furnished us with valuable information and to their representatives who gave evidence before us.

सत्यमेव जयते

K. R. P. AIYANGAR,
Chairman.

S. K. MURANJAN,
Member.

J. N. DUTTA,
Member.

R. S. BHATT,
Member.

RAMA VARMA,
Secretary.

BOMBAY;
The 22*nd August,* 1960.

APPENDIX I

(*Vide* Paragraph 2.1)

List of firms or bodies to whom questionnaires/letters were issued and from whom replies or memoranda were received.

*Indicated those who have replied.

**Indicates those who are not interested.

A. PRODUCERS

*1. Hindusthan-Pilkington Glass Works Ltd., Hindusthan Buildings, 4, Chittaranjan Avenue, Calcutta-13.

*2. Seraikella Glass Works (Private) Ltd., P. O. Kandra, S. E. Rly, Dist. Singhbhum.

*3. U. P. Glass Works Ltd., Bahjoi, Dist. Moradabad.

*4. Indo-Asahi Glass Co. Ltd., 30, Chittaranjan Avenue, Calcutta-12.

PROSPECTIVE PRODUCERS

*1. Madras Glass Works, Tiruvottiyur, Madras-19.

*2. Indo-Belgian Glass Works Private Ltd., 36-D, Mount Road, Madras-2.

ASSOCIATION

*1. All-India Glass Manufacturers' Federation, Govind Mansion, Connaught Circus, New Delhi.

B. IMPORTERS

*1. D. Ramaiah Chetty & Sons, 228-230, Devaraja Mudali Street, Madras-3

*2. F. IHL & Co. Kerawala Mansion (lst Floor), Carnac Road, Bombay-2.

*3. Goolamhoosein Valiji Arsiwalla, 116, Abdul Rehman Street, Bombay-3.

4. H. Manroy Ltd., D-5 Clive Building, Calcutta.

*5. Hargovind Dharamsi, 35, Mirza Street, Bombay-3.

*6. G. Jarvis, Representaing Pilkington Brothers Ltd., P. O. Box 682, Bombay-1.

7. Karimji Ebrahimji Arsiwalla, 118/120, Abdul Rehman Street, Bombay-3.

8. Koonjo Behary Chandra & Sons Private Ltd., 10/1, Swallow Lane, Calcutta-1.

*9. M. Mitter & Co., Privte Ltd., 114/1, Hazra Road, Calcutta-26.

*10. Mitsubishi Shoji Kaisha Ltd., Kasturi Buildings, Jamshedji Tata Road, Churchagate Reclamation, Bombay-1.

*11. Sepulchre Brothers (India) Private Ltd., Taj Building, Dadabhoy Naoroji Road, Fort, Bombay-1.

*12. Tribhovandas Maneklal Taktawala, Taktawala House, 1924 Gandhi Road, Ahmedabad.

13. Hill Elliot & Co., 15, Graham Road, Ballard Estate, Bombay-1.

*14. All India Glass Merchants' Association, 116, Abdul Rehman Street, Bombay-3.

C. CONSUMERS

1. Municipal Commissioner, Bombay Municipal Corporation, Bombay.

*2. Secretary, Bombay Port Trust, Ballard Road, Fort, Bombay.

*3. Controller of Stores, Central Railway, V. T. Bombay.

*4. Controller of Stores, Western Railway, Churchgate, Bombay-1

3—9 T. C. Bom/60

**5. Shapoorji Pallonji & Co. Private Ltd., 70, Medows Street, Fort, Bombay.
*6. Bawa Glass Co., Chandni Chowk, Delhi-6.
*7. D. N. Agrawal & Sons, 202, Old China Bazar Street, Calcutta-1.
*8. M. Latif Beg, 94, Canning Street, Calcutta-1.
9. Girdhar Das & Sons, Bhansphatak, Banaras.
*10. Indore Glass House, 39, Mahatma Gandhi Road, Indore City.
*11. Tata Iron & Steel Co., Ltd., Jamshedpur.
*12. Director of Co-ordination and Statistics, Directorate General of Supplies and Disposal, N-I Building, Parliament Street, New Delhi.
*13. K. G. Rajan & Co., 99, Big Bazar Street, Tiruchirapalli-8.
*14. T. V. Sundram Iyengar & Sons Private Ltd., 211, South Veli Street, Madurai.

D. GOVERNMENT DEPARTMENTS

*1. Senior Industrial Adviser (Chemicals), Development Wing, Ministry of Commerce and Industry, Udyog Bhavan, Maulana Azad Road, New Delhi.
*2. Director, Central Glass & Ceramic Research Institute, P. O. Jadavpur University, Calcutta-32.
*3. Collector of Customs, Calcutta.
*4. Collector of Customs, Bombay.
*5. Collector of Customs, Madras.
*6. Glass Technologist, Government of Uttar Pradesh, Kanpur.
*7. Director of Industries, Government of West Bengal, New Secretariat Buildings, 1, Hastings Street, Calcutta-1.
8. Director of Industries, Government of Bihar, Patna.
*9. Coal Controller, 1, Council House Street, Calcutta.
10. First Secretary (Commercial) to the Embassy of India in W., Germany, 262, Koblenzer Strasse, Bonn (West Germany).
*11. Second Secretary (Commercial) to the Embassy of India in Belgium, 585, Avenue Lousie, Bruxelles, (Belgium).
12. First Secretary (Commercial) to the Embassy of India 32, Tung Chiao Min Lsiang, Peking (China).
**13. Chief Secretary to the Government of Assam, Shillong.
**14. Chief Secretary to the Government of Orissa, Bhubaneswar.
**15. Chief Secretary to the Government of Kerala, Trivandrum.
**16. Chief Secretary to the Government of Punjab, Chandigarh.
*17. Chief Secretary to the Government of Andhra Pradesh, Hyderabad.
**18. Chief Secretary to the Government of Madras, Madras.
19. Chief Secretary to the Government of Madhya Pradesh, Bhopal.
**20. Chief Secretary to the Government of Rajasthan, Jaipur.
*21. Chief Secretary to the Government of Jammu & Kashmir, Srinagar.
*22. Chief Secretary to the Government of Mysore, Mysore Government Secretariat Vidhana Soudha, Bangalore.
23. Chief Commissioner, Himachal Pradesh, Simla,

**24. Chief Commissioner, Delhi State, Delhi.

**25. Chief Secretary to the Government of Maharashtra, Bombay.

*26. Chief Secretary to the Government of Uttar Pradesh, Lucknow.

27. Chief Secretary to the Government of Bihar, Patna.

28. Chief Secretary to the Government of West Bengal, Calcutta.

APPENDIX II

(*Vide* Paragraph 2.3)

List of persons who attended the Commission's public inquiry on 29th July, 1960

A. PRODUCERS

1.	Shri T.C. Roy Choudhury	Representing	Hindusthan-Pilkington Glass Works Ltd., 4, Chittaranjan Avenue, Calcutta-13.
2.	„ K. Almond		
3.	„ S. Roy Choudhury		
4.	„ Y. Yokota	„	Indo-Asahi Glass Co. Ltd., 30, Chittaranjan Avenue, Calcutta-12.
5.	„ H.C. Varshnei	„	Scriakella Glass Works Private Ltd., Kandra. U. P. Glass Works Ltd., Bahjoi and Madras Glass Works, Madras.
6.	„ K. Hariharan		Indo-Belgian Glass Works, Private Ltd., 36-D, Mount Road, Madras-2.

B. PRODUCERS ASSOCIATION

7.	Dr. S.R. Lele	Representing	All India Glass Manufacturers' Federation, Govind Mansion, Connaught Circus, New Delhi.

C. IMPORTERS AND ASSOCIATION OF IMPORTERS

8.	Shri C.C. Desai	Representing	All India Glass Merchants' Association, 116, Abdul Rehman Street, Bombay-3.
9.	„ S.M. Kachwalla		
10.	„ G.P. Sharma		
11.	„ H.A. Master	„	Pilkington Brothers Ltd., P. O. Box 682, Bombay-1.
12.	„ F. Tanaka	„	Mitsubishi Shoji Kaisha Ltd., Kasturi Building, Jamshedji Tata Road, Bombay-1.
13.	„ R. Tanaka		
14.	„ Zaveri		
15.	„ Mangaldas Ramji		
16.	„ K.A. Dotiwala	„	F. Ihl. & Co., Kerawala Mansion, Carnac Road, Bombay-2.
17.	„ Divecha R.H.	„	Hargovind Dharamsi, 35, Mirza Street, Bombay-3.

D. CONSUMERS

18.	„ D.N. Agarwal	„	D. N. Agarwal & Sons, 202 Old China Bazar Street, Calcutta-1.
19.	„ J.A. Taktawala	„	All India Safety Glass Manufacturers' Association, 35, Faiz, Bazar, Delhi-7.

20.	Shri	K.A. Mehta	Representing	Bombay Municipal Corporation, Bombay-1.
21.	,,	R. Pereira	,,	Bombay Port Trust, Ballard Estate, Bombay-1.
22.	,,	M.G. Trehan	,,	Bawa Glass Co., Chandni Chowk, Delhi-6.
23.	,,	Vaidyalingam	,,	Controller of Stores, Central Railway, Bombay-1.
24.	,,	D. Velayudham	,,	Controller of Stores, Western Railway, Bombay-1.
25.	,,	S.V. Sundaram	,,	Directorate General of Supplies & Disposals, N-I Building, Parliament Street, New Delhi.

E. GOVERNMENT DEPARTMENTS

26.	,,	S.R. Khanna	,,	The Senior Industrial Adviser (Chemicals), Development Wing, Ministry of Commerce & Industry, King, Edward Road, New, Delhi.
27.	Dr.	Sen	,,	Central Glass & Ceramic Research Institute, P. O. Jadavpur University, Calcutta-32.
28.	Shri	A.B. Rao	,,	Indian Standards Institution, Manak Bhavan, 9, Mathura Road, New Delhi.
29.	,,	S.B. Sarkar	,,	Office of the Coal Controller, 1, Council House Street, Calcutta.
30.	,,	K.H. Parikh	,,	Chief Secretary, Government of Uttar Pradesh, Lucknow.
31.	,,	U. Chatterji	,,	Chief Secretary, Government of West Bengal, Calcutta.
32.	,,	R.N. Malhotra	,,	Collector of Customs, Bombay.

F. OBSERVER

33.	,,	Kapadia	,,	Harshadray Private Ltd., Advani Chamber, Sir P. M. Road, Bombay-1.

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APPENDIX III

(*Vide* Paragraph 7.2)

Statement showing Production of sheet glass by gauges for 1957, 1958, 1959 *and* 1960 (*Jan.-June*),

(In. sq. ft.)

Name of the producer	Production								
	16'18 oz.	21 oz.	24 oz.	26 oz.	32 oz.	3'16"	7'32"	1'4"	Total
					1957				
1. Hindusthan—Pilkington Glass Works Ltd.	6,716,024	..	4,848,675	15,809	854,324	1,55,227	630,770	..	13,220,829
2. Seraikella Glass Works (P) Ltd.	24,769,423	104,855	268,998	..	81,029	..	..	..	25,224,305
3. Indo-Asahi Glass Co. Ltd.	2,807,900	..	824,200	..	65,500	13,800	6,400	8,400	3,726,200
4. U.P. Glass Works Ltd. .	5,399,475	..	5,940	..	389	..	..	..	5,405,804
TOTAL .	39 692,822	104,855	5,947,813	15,809	1,001,242	169,027	637,170	8,400	47,577,138
					1958				
1. Hindusthan-Pilkington Glass Works Ltd.	5,424,706	..	5,374,085	14,350	1,082,285	163,831	1,642,046	..	13,701,303
2. Seraikella (Glass Works (P) Ltd.	26,029,528	73,520	682,347	..	102,176	..	..	..	26,887,571
3. Indo-Asahi Glass Co. Ltd.	13,186,100	..	3,362,500	..	1,340,300	61,400	1,113,300	12,600	19,076,200
4. U.P. Glass Works Ltd.	5,477,197	..	1,966	..	246	..	..	..	5,479,409
TOTAL .	50,117,531	73,520	9,420,898	14,350	2,525,007	225,231	2,755,346	12,600	65,144,483

1995

1. Hindusthan — Pilkington Glass Works Ltd.	2,310,526	..	5,897,464	19,900	1,553,188	235,757	2,986,014	..	13,002,849
2. Seraikella Glass Works (P) Ltd.	23,142,661	174,326	1,136,265	..	79,198	..	51,128	..	24,582,578
3. Indo-Asahi Glass Co. Ltd.	5,840,750	..	4,557,400	..	1,530,400	200	1,486,900	21,100	13,436,750
4. U.P. Glass Works Ltd. .	7,340,731	..	8,800	..	259	..	..	..	7,349,790
TOTAL .	38,634,668	174,326	11,598,929	19,900	3,163,045	235,957	4,524,042	21,100	58,

1960 (January-June)

1. Hindusthan-Pilkington Glass Works Ltd.	2,175,527	..	3,023,050	87,002	641,261	320,493	1,392,796	..	7,640,129
2. Seraikella Glass Works (P) Ltd.	18,255,797	98,154	433,505	..	46,973	..	31,373	..	18,865,802
3. Indo-Asahi Glass Co. Ltd.	3,445,400	..	1,875,300	..	520,400	..	303,200	..	6,144,300
4. U.P. Glass Works Ltd. .	3,999,112	1,349	14,897	..	22	..	..	..	4,015,380
TOTAL .	27,875,836	99,503	5,346,752	87,002	1,208,656	320,493	1,727,369	..	36,665,611

GIPN—S3—9 T. C. Bombay/60—20-1-61—400.

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